AMENDMENT

Please amend the above-referenced application as follows.

IN THE CLAIMS

Please amend independent claims 1 and 2 and cancel claims 3-16 as set forth in the Marked-Up Version of the Claims appended hereto.

Please add claims 17-30 as set forth in the Clean Version of the Pending Claims appended hereto.

REMARKS

By present amendment, applicants have amended claims 1 and 2; cancelled claims 3-16; and added claims 17-30. Consequently, as a result of the foregoing amendments claims 1, 2 and 17-30 are now pending in the present application, of which claims 1, 2, 23 and 24 are independent.

In the May 21, 2002 Office Action (Paper No. 7), claims 1-8 were rejected as being anticipated by Ilacqua; claims 1-4 were rejected as being anticipated by either Malmberg or Spath; claims 5-8 and 10-13 were rejected as being unpatentable over Malmberg or Spath in view of Meumann; and claims 9, 14, 15 and 16 were rejected as being unpatentable over Malmberg in view of Meumann. Applicants traverse these rejections as set forth below.

I. Ilacqua Does Not Disclose or Otherwise Teach Several of the Limitations of the Claims

The May 21, 2002 Office Action rejected claims 1-8 and 10 as being anticipated under 35 U.S.C. § 102(b) by Ilacqua, and in particular the regions identified in Ilacqua as 72 or 74. (May 21 Office Action p. 2). For the reasons set forth in subsections A and B below applicants respectfully traverse these rejections.

A. Ilacqua Does Not Disclose or Otherwise Teach a Region of Reduced Width Dimension Relative to the Bordering Regions Located on Either Side

The May 21, 2002 Office Action rejected claims 3 and 4 as being anticipated by Ilacqua , noting that regions 72 or 74 in Ilacqua meet the limitations of the claims. Claims 3 and 4 included the limitation that the upper portion of the blade comprise:

> "a defined region having a reduced width dimension in a direction generally perpendicular to the face of the blade when measured relative to regions in the upper portion that border either side of the defined region along the longitudinal axis"

Although claims 3 and 4 have been cancelled, newly presented claims 23 through 30 include a similar limitation in that each includes the limitation that the upper portion of the blade comprise a an outer most exterior concave surface that:

> "forms a region of reduced width dimension, as measured between the first and second outer most exterior surfaces, relative to bordering regions on either side of the concave surface along the longitudinal axis."

However, careful review of the Ilacqua reference, including the identified regions noted in the May 21 Office Action, reveals that Ilacqua does not disclose or otherwise teach a region of reduced width dimension as set forth in either of the limitations set forth above.

Ilacqua discloses a hockey stick 10 comprised of an elongated handle 12 and a blade member 14 having a shank 48 that is adapted to mate with the handle. The shank 48 is formed of two broad

sidewalls 60, 62 that extend downward toward the heel 46 of the blade 14 to form two tapering sidewalls 56, 58. (See Ilacqua at Figures 1 and 2 and related text). The noted regions 72 and 74, identified in the May 21 Office Action, comprise a series of generally rectangular *alternating* indentations in the tapering sidewalls 56, 58. Notably, the indentations are *offset* relative to one another, such that indentations 72 in tapering sidewall 56 occupies the space *between* successive indentations 74 residing in tapering sidewall 58. Furthermore, because sidwalls 56 and 58 are tapered, the width dimension as measured between the base of the indentations 72 and 74 and their respective opposed tapering sidewalls 58 and 56 does not increase but *only* decreases with the taper along the longitudinal axis of the shank 48. Hence, in other words, Ilacqua only discloses an increase in the relevant thickness dimension going up the shaft 48 and not an increased thickness at the regions bordering above *and* below indentations 72 or 74. (See Ilacqua at Figures 1 and 2; Col. 4:54 to Col. 5: 15).

Ilacqua, therefore, does not disclose an upper portion of the blade having a defined region of reduced width dimension relative to the regions that border either side of defined region as was required by cancelled claims 3 and 4. For the same reasons set forth above, Ilacqua does not disclose and upper portion of the blade comprising an outer most exterior concave surface that "forms a region of reduced width dimension, as measured between the first and second outer most exterior surfaces, relative to bordering regions on either side of the concave surface along the longitudinal axis" as is required by pending claims 23-30. Accordingly, it is respectfully submitted that claims 23-30, are allowable over Ilacqua.

B. Ilacqua Does Not Disclose or Otherwise Teach a Region of Reduced Longitudinal Bending Stiffness Relative to the Bordering Regions Located on Either Side

The May 21, 2002 Office Action rejected claims 1 and 2 as being anticipated by Ilacqua , noting that regions 72 or 74 in Ilacqua meet the limitations of the claims. Claims 1, 2 and newly added claims 17-22 each include the limitation that the blade comprise:

> "a defined region of reduced longitudinal bending stiffness in a direction generally perpendicular to the faces of the blade when measured relative to regions in the upper portion of the blade that border either side of the defined region along the longitudinal axis"

Ilacqua contains no disclosure or teaching whatsoever pertaining to a "defined region of reduced longitudinal bending stiffness" "relative to regions in the upper portion of the blade that border either side of the defined region along the longitudinal axis". Quite the opposite, as described above in the preceding subsection, Ilacqua discloses a hockey stick 10 comprised of an elongated handle 12 and a blade member 14 having a shank 48 that is adapted to mate with the handle. The shank 48 is formed of two broad sidewalls 60, 62 that extend downward toward the heel 46 of the blade 14 to form two tapering sidewalls 56, 58. (See Ilacqua at Figures 1 and 2 and related text).. The indentations 72, 74 residing in the two opposed tapering sidewalls 56, 58 are conspicuously configured so that they are offset from one another in a manner that results in an increase in thickness dimension of the shank 48 *only* going upward along the shank 48.

Consequently, the only bending stiffness attribute that can be inferred from this structure is that the bending stiffness in the region of the shank bordering *above* any given indentation 72 or 74 is greater than the bending stiffness in the region of the shank 48 at the indentation 72, 74 and the

bending stiffness in the region of the shank 48 bordering *below* any given indentation 72 or 74 is less than the bending stiffness in the region of the shank at the indentation 72, 74. Ilacqua, therefore does not discloses any structure that teaches or otherwise suggests the employment of a defined region of reduced longitudinal bending stiffness relative to the bordering regions on either side of the defined region along the longitudinal axis as required by claims 1, 2 and 17-22.

Furthermore, the placement and dimensioning of the indentations 72, 74 along the tapered walls 56, 58 evidences that Ilacqua takes great measures to maintain the traditional tapered structure toward the heel 46 of the blade 14 - and therefore takes great measures to maintain the traditional continuous reduction of bending stiffness along the longitudinal length of the shaft or shank toward the heel of the blade. That Ilacqua maintains this traditional configuration is not surprising, in that it is consistent with the fact that Ilacqua teaches a shank 48 molded of a material that is generally heavier (i.e., having a greater specific gravity) than wood such as plastic. The indentations 72, 74 lesson the weight so that it may better approximate the weight and feel of a wooden hockey stick handle. (See Ilacqua Col. 1:64-67; Col. 5:16-19). Consequently, not only does Ilacqua fail to teach the limitation but it also appears to place a premium on the retention of the traditional wood stick configuration and thereby *teaches away* from the claimed limitation.

Although, Ilacqua teaches indentations in the shank of a molded blade member, when reviewed carefully the relative positions of those indentations negate its relevance to the claimed limitations and when further viewed with reference to the structural configurations of the embodiments and the manufacturing materials disclosed not only fails to disclose the limitation but in fact *teaches away* from the claimed limitations. Accordingly, it is respectfully submitted that all of the pending claims are allowable over Ilacqua.

C. Ilacqua Does Not Disclose or Otherwise Teach a Concave Surface Having a Continuous Curved Transition Into the Front or Back Facing Outer Most Exterior Surfaces of the Upper Portion

New claims 17-21 and 23-30 each include an upper portion of a blade comprising:

> "outer most exterior concave surface having a continuous curved transition into at least one of the first or second outer most exterior surfaces [of the blade]"

Ilacqua does not disclose this limitation.

The indentations 72, 74 disclosed in Ilacqua employ *planar* sidewalls to meet the exterior surface of tapering sidewalls 56 and 58. (See Ilacqua at Figure 2). As a result there is an abrupt change in the exterior wall of the shank 48 similar to a "step function". In contrast, claims 17-21 and 23-30 require a "continuous curved transition", a configuration that is capable of creating a continuous, progressive, and non-linear change in static and/or dynamic performance of the structure.

Since Ilacqua, only teaches abrupt, planar sidewalls for its indentations 72, 74 it fails to teach or otherwise disclose the claimed limitation. New claims 17-21 and 23-30, therefore include limitations that further distinguish over Ilacqua. Accordingly, it respectfully submitted that claims 17-21 and 23-30 are allowable over Ilacqua on this alternative additional basis.

II. Spath Neither Individually Nor in View of Meumann Discloses or Otherwise Teaches the Limitations of the Claims

The May 21, 2002 Office Action rejected claims 1-4 as being anticipated under 35 U.S.C. § 102(b) by Spath holding that "Spath's region C" meets the limitation of the claims and noting that:

> With regard to Malmber's and Spath's hockey sticks the upper region of the blade is clearly stated to be less rigid. This is all that is required regardless of the function of Malmberg's device 4. . . . Regarding the position of the weakened portion whether one terms it the upper end of the blade of [sic] the lower end of the shaft it is clear from a comparison of the drawing figures that it occurs in the same place. Therefore if applicant wishes to designate that section of his stick part of the blade then for consistency that part of prior art sticks must also be considered part of the blade.

(May 21, 2002 Office Action at pp. 2-3). The foregoing §102(b) rejection as it relates to Spath has been rendered moot in view of the cancellation of claims 3 and 4 and the amendments to claims 1 and 2, which added limitations to claims 1 and 2 that the blade be detachable. As a consequence amended claims 1 and 2 are discussed in the context of the outstanding §103(a) rejection traversed below.

The May 21 Office Action rejected claims 5-8 and 10-13 under 35 U.S.C. § 103(a) as being unpatentable over Spath in view of Meumann finding that:

> Malmberg or Spath disclose the claimed structure with the exception of the detachable feature of the blade. However, as disclosed by Meumann it is known in the art to provide hockey stick blades as detachable blades. It would have been obvious to one or ordinary skill in the art to have done the same with Malmberg or Spath's blade to allow for replacement thereof.

(May 21, 2002 Office Action at p. 3). Applicants respectfully traverse as set forth below.

A. Spath Does Not Teach or Otherwise Disclose a Concave Surface

The May 21 Office Action rejected claims 5-8 and 10-13 as obvious over Spath in view of Meaumann, finding that Spath disclosed the claimed structure *except* for the detachable feature of the blade. Because Spath does not disclose a concave surface as claimed, applicants respectfully traverse.

Claims 5-8 and 10-13, although cancelled, each contained the limitation that the upper portion of the blade include:

> "an outer concave surface on at least one of a front side and a back side of the upper portion".

Pending claims 17-21 and 23-30 each include a similar limitation, namely that the upper portion of the blade comprise:

> "an outer most exterior concave surface having a continuous curved transition into at least one of the first or second outer most exterior surfaces [of the blade]".

Spath does not disclose an outer concave surface as set forth in the above limitations of either cancelled claims 5-8 and 10-13 or newly added claims 17-21 and 23-30. Rather, Spath discloses a one piece hockey club of the type used for field hockey and provides three figures. (Spath at Figures 1-3 and translation at p. 1). Figure 1 is a frontal view, Figure 2 is a side view and Figure 3 is a cross section view along line A-B in Figure 1. The description of the figures states:

> The hockey club consists of the handle a and the hitting part b. According to the invention a *flat* part c is provided between the two parts thus flexibly connecting the two parts a and b thereby providing the advantages of elastic play.

(Spath translation at p. 1). The cross sectional view of Figure 3, taken along line A-B in Figure 1, shows that the "flat" part c is comprised of two *planar* surfaces that are angled *outwardly* away from the edges of the hockey club so as to meet at a center line of the hockey club to form an apex. (Spath at Figures 1-3). The lower end (i.e., the end toward the hitting part b) and upper end (i.e., the end toward the handle part a) of each plane merge via an additional *planar* surface into the exterior surfaces adjacent to part c. (Spath at Figure 2). Notably, the apex created by the meeting of the planar surfaces of part c coincides with the apex formed by similar planar surfaces located on the adjacent lower portion of the hockey club so that the geometry of part c is generally a continuum of the geometry of the adjacent lower portion of the hockey club. (See Spath at Figures 1-3).

Thus, when part c is viewed in cross-section across line A--B illustrated in Figure 1 the surface is *triangular* with the apex of the triangle pointing outward from the hockey club. (Spath at Figures 1 and 3). Alternatively, when part c is viewed in cross-section, along for example the apex formed by the merging planar surfaces, the surface is *trapezoidal*. (Spath at Figures 1 and 2).

A concave surface, as illustrated in the present application, includes a curved surface. (See Figures 3-7 of the application; see also Webster's Third International Dictionary of the English Language Unabridged, published by Merriam-Webster Inc. ISBN 0-87779-201-1 (1993) at p. 469, a copy of the relevant pages of which are attached hereto). Because Spath neither discloses nor suggest a curved surface, it does not disclose a concave surface.[1]

Accordingly, it respectfully submitted that claims 17-21 and 23-30 are allowable over Spath as failing to disclose a concave surface as was and is claimed. The propriety of the additional obviousness rejections that are premised on the erroneous finding in the May 21 Office Action that Spath discloses a concave surface are discussed below, in the following subsection.

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[1] Applicants note that the May 21 Office Action states that:

> In response to applicant's definition of concave as explained in the remarks Sweet has been removed as grounds of rejection. It is understood from applicant's remarks that applicant's "concave" area is only one which has varied depth. However, Spath's area is of varied depth as can be clearly seen in Fig. 2.

(May 21 Office Action at p. 2). However, applicants' Preliminary Amendment remarks as to Sweet simply pointed out that Sweet did not disclose a concave region because the recesses in Sweet have a uniform depth and that by definition a "concave" surface does not have a uniform depth. A similar distinction was made in applicants' Preliminary Amendment remarks relating to Spath, which noted that Spath's region C is "flat" as opposed to concave. Hence, applicants' Preliminary Amendment remarks were not intended to *change* the ordinary meaning of the term concave but rather were phrased in the negative to point out how the structure in Sweet as well as Spath was deficient to meet the meaning of the term.

B. Spath In View of Meumann Does Not Teach a Detachable Blade That Meets the Limitations of the Claims

As previously noted, the May 21 Office Action rejected claims 5-8 and 10-13 as obvious over Spath in view of Meumann, finding that Spath disclosed the claimed structure *except* for the detachable feature of the blade. Because Spath does not disclose the claimed concave surface as would be required in order to make out a *prima facie* case of obviousness and because it would be counterintuitive to combine part c disclosed in Spath in the manner suggested in May 21 Office Action (i.e, to locate the flat part c of the unitary hockey club disclosed in Spath on the hozel portion of the detachable blade disclosed in Meumann), applicants respectfully traverse.

Claims 5-8, 10-13, although cancelled, each included the limitation of a *detachable* blade having an upper portion that includes:

> "an outer concave surface on at least one of a front side and a back side of the upper portion".

As discussed in preceding section II. A, pending claims 17-21 and 23-30 each include a similar limitation. As set forth in section II. A, Spath does not disclose these limitations. Consequently, Spath in combination with Meumann cannot render these claims obvious under 35 U.S.C. §103(a) because the references cited do not teach or suggest *all* the claim limitations -- hence no *prima facie* case of obviousness can be made. (M.P.E.P. at §§2143 and 2143.03).

Furthermore, there is no motivation to combine the detachable feature employed in Meumann with the flat part c disclosed in Spath, let alone to combine these two features in the manner suggested in the May 21 Office Action -- namely to locate the flat part c of the unitary hockey club disclosed in Spath on the hozel portion of the detachable blade disclosed in Meumann.

The May 21 Office Action suggests that because Spath discloses a single piece hockey club having a flattened part c connecting the hitting part b with the handle part a and Meumann discloses a detachable blade having a hozel, one of ordinary skill in the art would find it obvious to combine those teachings to produce a detachable blade having a hozel portion that includes Spath's flattened part c. This reasoning however fails to recognize that a single unitary stick is quite different than a multi-part stick comprising a detachable blade.

Hockey sticks, whether unitary or multi-part, typically include a tapered section that connects the shaft to the blade, thereby facilitating the seamless transition in merging a thick shaft into a thin blade. The prevalence of this traditional structure is evidenced by the art made of record including the Meumann reference. (See Meumann at Figures 6-7).

As explained in Meumann, because of this tapered configuration hockey sticks tend to break at the lower shaft portion immediately above the blade:

> During the course of a game, a hockey stick can impact the playing surface hundreds of times, often at force levels equal to the maximum level for which the stick was designed. Hence, it is not uncommon for experienced players to break one or more sticks during each game. *In many cases, a hockey stick breaks at the hozel portion of the blade (the lower shaft portion immediately above the blade), thus leaving the majority of the shaft undamaged.*

(Meumann at Col. 1:19-28 (emphasis added)).

The blade replacement system disclosed in Meumann is directed to enhancing the useful life of a hockey stick shaft by eliminating the need to discard the entire stick due to a broken blade. To

this end, Meumann discloses a coupler portion 12 configured to fit between a replacement blade 14 and a hockey stick shaft 16 - thereby allowing players to attach new blades onto previously broken sticks to preserve the life of the shaft. (Meumann at Col. 2:23-26; Col. 2:40-45). Because Meumann teaches that the hozel portion of the blade is the portion that tends to break, it would be contrary to the teachings of Meumann to weaken that very same hozel by including Spath's part c thereon. Thus, Meumann expressly *teaches away* from a detachable blade having a hozel or upper portion that includes Spath's "flat" part c.

The combination suggested in the May 21 Office Action is counterintuitive for an additional reason. Meumann teaches the conservation of shafts by recycling them via the use of a coupler portion 12. Thus, in order to achieve the greatest conservation of shaft material, Meumann implicitly teaches a hozel or upper portion of blade that is no longer than necessary to provide the structural support or integrity to connect the thin blade to the thicker shaft -- thereby conserving the greatest portion of the shaft for reuse:

> *It is contemplated that when a wooden hockey stick breaks close to the hozel of the stick, that the shaft be cleanly cut just above the break* to provide a "squared off" connecting end 42, as shown in phantom in Fig. 1. That shaft connecting end 42 may then be inserted into opening 22 of coupler portion 12 as shown to snugly fit therewithin. *While it is possible that the remaining broken blade may be refinished to create a hozel for insertion into opposing opening 24 of coupler portion 12, it is more likely that the user must discard the broken blade as unusable.* Under those circumstances, the user can employ a

> replaceable blade having a finished hozel 44, shown in phantom in FIG. 1 and directly in FIG. 6, that is capable of mating with opposing opening 24 for a snug fit therewithin.

(Meumann at Col. 4:63 - Col. 5:10 (emphasis added)). Hence, weakening the hozel's structural integrity by including thereon Spath's part C would be contrary to its primary purpose -- that of providing the necessary support to connect the blade to the shaft -- and therefore would be counterintuitive as well as wasteful in view of the teachings in Meumann.

The foregoing teaching in Meumann is also consistent with the general proposition that the connection point between the shaft and the blade, in a multi-part stick, be located as close as possible to the blade. In this way the player's force on the shaft may be transferred, without interruption or impedance created by the connection, as close as possible to the point of impact (i.e., the blade face) -- thereby providing greater control to the player. In contrast, the addition of a weakened section, such as that disclosed in Spath, in the hozel would tend to displace the connection point from the blade a greater distance than otherwise required to provide the necessary structural support to make a connection with the shaft. Hence, such a design would not be obvious for this additional reason.

Thus, because Spath does not disclose or otherwise teach the concave surface limitation for which it was cited, its combination with Meumann is insufficient to make out a *prima facie* case of obviousness. In addition, neither Spath or Meumann provide any motivation to combine the elements as suggested by the May 21 Office Action, and in fact *teach away* from such a combination.

Accordingly, it respectfully submitted that claims 17-21 and 23-30 are allowable over Spath and Meumann. In addition, since claims 1 and 2 have been amended to include a limitation directed

to a detachable blade feature, it respectfully submitted that those claims as well as claim 22 which depends thereon are also allowable over Spath and Meumann for the same reasons.

C. Spath Does Not Teach or Otherwise Suggest a Concave Surface Having a Continuous Curved Transition

As set forth in the foregoing sections I. C. and II. A, new claims 17-21 and 23-30 each include an upper portion of a blade comprising an:

> "outer most exterior concave surface having a continuous curved transition into at least one of the first or second outer most exterior surfaces [of the blade]".

As set forth in preceding section II.A, Spath does not disclose any curved surface whatsoever in part c. Hence, there is no disclosure in Spath of a concave surface having *continuous curved transition* as required by claims 17-21 and 23-30. Accordingly, for the same reasons set forth in the proceeding section II. A, it respectfully submitted that claims 17-21 and 23-30 are allowable over Spath on this alternative additional basis.

III. Malmberg Neither Individually Nor in View of Meumann Discloses or Otherwise Teaches the Limitations of the Claims

As previously noted in relation to the foregoing discussion related to Spath, the May 21, 2002 Office Action rejected claims 1-4 as being anticipated under 35 U.S.C. § 102(b) by Malmberg holding that "Malmberg's region 5" meets the limitation of the claims and noting that:

> With regard to Malmber's and Spath's hockey sticks the upper region of the blade is clearly stated to be less rigid. This is all that is required regardless of the function of Malmberg's device 4. Moreover, Malberg's [sic] device is intended to a reinforcement to hockey sticks which already exist and those hockey sticks without the reinforcement also meet the claim limitations. Regarding the position of the weakened portion whether one terms it the upper end of the blade of [sic] the lower end of the shaft it is clear from a comparison of the drawing figures that it occurs in the same place. Therefore if applicant wishes to designate that section of his stick part of the blade then for consistency that part of prior art sticks must also be considered part of the blade.

(May 21, 2002 Office Action at pp. 2-3). Without conceding the merits of the rejection, the foregoing §102(b) rejection as it relates to Malmberg has been rendered moot in view of the cancellation of claims 3 and 4 and the amendments to claims 1 and 2, which added limitations to claims 1 and 2 that the blade be detachable. As a consequence amended claims 1 and 2 as well as limitations in the pending claims similar to those in claims 3 and 4 are discussed in the context of outstanding the §103(a) rejection, traversed below.

The May 21 Office Action rejected claims 5-16 under 35 U.S.C. § 103(a) as being unpatentable over Malmberg in view of Meumann contending that:

> Malmberg discloses the claimed structure with the exception of the detachable feature of the blade. However, as disclosed by Meumann it

> is known in the art to provide hockey stick blades as detachable blades. It would have been obvious to one or ordinary skill in the art to have done the same with Malmberg's blade to allow for replacement thereof.

(May 21, 2002 Office Action at p. 3). Applicants respectfully traverse as set forth below.

A. Malmberg Does Not Teach an *Outer* or and *Outer Most Exterior* Concave Surface Nor Does Malmberg Disclose or Otherwise Teach a Reduced Width Dimension Relative to the Bordering Regions Located on Either Side

The May 21 Office Action rejected claims 5-16 as obvious over Malmberg in view of Meumann, finding that Malmberg disclosed the claimed structure *except* for the detachable feature of the blade. Because Malmberg does not disclose an *outer* concave surface as claimed, applicants respectfully traverse.

Claims 5-16, although cancelled, each contained the limitation that the upper portion of the blade include:

> "an outer concave surface on at least one of a front side and a back side of the upper portion".

Pending claims 17-21 and 23-30 each include a similar limitation, although one that stresses the exterior location of the *outer* concave surface, namely that the upper portion of the blade comprise:

> "an outer most exterior concave surface having a continuous curved transition into at least one of the first or second outer most exterior surfaces [of the blade]".

Malmberg does not disclose an *outer* concave surface as was required by the above limitation contained in cancelled claims 5-16 nor an *outer most exterior* concave surface as is required by newly added claims 17-21 and 23-30. Rather, Malmberg discloses a hockey stick having a shaft comprising a concave *internal* structure that is overlain with a reinforcement device 4 which stiffens the weakened shaft (created by the concave internal structure) when deflected a small amount so as to avoid breakage of the shaft. (Malmberg translation pp. 1-2).

> "[T]he invention has made it possible to make the part 3 [of the shaft] weaker than has been the case in the prior art...[t]he weakening of the part 3 has been accomplished through the removal of concave regions 5 of material form the part 3". (Malmberg translation at p.2).

> The stick further includes: "a reinforcement device 4, which is arranged such that it stiffens the shaft 1 when the part 3 has been deflected an amount for the purpose of shock-absorbing spring action". (Malmberg translation at p. 2).

The May 21 Office Action contends that:

> "Malberg's [sic] device is intended to [sic] a reinforcement to hockey sticks which *already exist* and those hockey sticks without the reinforcement also meet the claim limitations.

(May 21 Office Action at p. 2 (emphasis added)). There is nothing in the drawings to suggest this contention. Moreover, the contention is contrary to Malmberg's express disclosure, which negates the notion that the device is used as a reinforcement to *already existing* hockey sticks:

> According to the embodiment shown in the drawing, the reinforcement device consists of a case or the like attached on the shaft 1 over the relatively weakly dimensioned part 3, which case is, at its first end 6, firmly attached to the shaft 1 and which, at its other end 7, is located some distance from the shaft 1. **The case 4 is arranged such that it is slipped over the shaft 1 before the blade 2 is glued or otherwise attached to the shaft 1.**

(Malmberg translation at p.2, ¶ 6 (emphasis added)).

Hence, Malmberg does not support the contention that the device is employed to provide reinforcement to sticks that already exists. Rather, Malmberg teaches a concave *internal* surface on a *shaft* (not a blade) that is then encased by the reinforcement device prior to being attached to the blade. Because, it is clear form the drawings that the outer surface of the reinforcement device forming the outer exterior of the shaft is not concave, Malmberg fails to disclose the limitations of the claims. (See Malmberg Figures 1-3).

Moreover, the May 21, 2002 Office Action rejected claims 3 and 4 as being anticipated by Malmberg, noting that region 5 in Malmberg meets the limitations of the claims. Claims 3 and 4 included the limitation that the upper portion of the blade comprise:

> "a defined region having a reduced width dimension in a direction generally perpendicular to the face of the blade when measured relative to regions in the upper portion that border either side of the defined region along the longitudinal axis"

Although claims 3 and 4 have been cancelled, newly presented claims 23-30 include a similar limitation, in that each includes the limitation that the upper portion of the blade comprise a an outer most exterior concave surface that:

> "forms a region of reduced width dimension, as measured between the first and second outer most exterior surfaces, relative to bordering regions on either side of the concave surface along the longitudinal axis."

However, because Malmberg does not teach an outer most exterior concave surface as discussed above, it follows that Malmberg does not teach such a surface that forms a reduced width dimension as measured between the outer most exterior surfaces, relative to bordering regions on either side of the concave surface along the longitudinal axis as is required by claims 23-30.

Accordingly, it is respectfully submitted that claims 17-21 and 23-30 are allowable over Malmberg.

B. Because Malmberg Does Not Teach or Otherwise Disclose an *Outer* or *Outer Most Exterior* Concave Surface the Additional Obviousness Rejections are Deficient to Make Out a Prima Facie Case

As previously noted, the May 21 Office Action rejected claims 5-16 as obvious over Malmberg in view of Meumann, finding that Malmberg disclosed the claimed structure *except* for the detachable feature of the blade. Because Malmberg does not disclose the claimed *Outer* or *Outer Most Exterior* concave surface as would be required in order to make out a *prima facie* case of obviousness, as described in the preceding subsection, applicants respectfully traverse this rejection as well.

C. Malmberg In View Meumann Does Not Teach a Detachable Blade That Meets the Limitations of the Claims

As previously noted, the May 21 Office Action rejected claims 5-16 as obvious over Malmberg in view of Meumann, finding that Malmberg disclosed the claimed structure *except* for the detachable feature of the blade. However, for the reasons set forth in Section II.B starting at paragraph 3, there is no motivation to combine the detachable feature employed in Meumann with the internal concave structure disclosed in Malmberg, let alone to combine these two features in the manner suggested in the May 21 Office Action -- namely to locate the internal concave structure of Malmberg's part 5 externally on the hozel portion of the detachable blade disclosed in Meumann.

Lack of motivation to do so is further evidenced by Malmberg, which states that the weakly dimensioned part 3 created by the concave regions 5 has the *disadvantage* absent the employment of the external stiffening member to result in the *break* of the shaft. (See Malmberg translation at p. 1 ¶1). Moreover, as previously noted the concave regions 5 in Malmberg are located on the shaft and not the blade even though the hockey stick in Malmberg was formed with a blade having a hozel

extending from the heel of the blade. (See Malmberg Figure 3, reference numeral 2 and translation at p. 2 ¶6). Hence, for all the foregoing reasons it would not have been obvious to combine the teachings of Malmberg with Meumann so as to locate the internal concave structure of Malmberg's region 5 externally on the hozel portion of the detachable blade disclosed in Meumann.

Since all of the pending claims include the limitation that the blade be detachable, it is respectfully submitted that pending claims 1-2 and 17-30 be allowable over Malmberg and Meumann.

D. Malmberg Does Not Teach or Otherwise Suggest a Concave Surface Having a Continuous Curved Transition

As set forth in the foregoing sections, new claims 17-21 and 23-30 each include an upper portion of a blade comprising an:

> "outer most exterior concave surface having a continuous curved transition into at least one of the first or second outer most exterior surfaces [of the blade]".

Because Malmberg, as previously set forth in the foregoing section III.A, does not disclose an outer most exterior concave surface it follows that such a surface cannot having a continuous curved transition into the outer most exterior surfaces of the blade as is required by claims 17-21 and 23-30.

Accordingly, for the same reasons set forth in the proceeding section III. A, it respectfully submitted that claims 17-21 and 23-30 are allowable over Malmberg on this alternative additional basis.

Summary

For the foregoing reasons, applicants respectfully submit that the present application is in condition for allowance. If such is not the case, the Examiner is requested to kindly contact the undersigned in an effort to satisfactorily conclude the prosecution of the application.

Respectfully submitted,

Jones Day Reavis & Pogue

Dated: November 21, 2002 By: _____

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Enclosures

MARKED-UP VERSION OF THE PENDING CLAIMS

1. (Amended) A hockey stick blade comprising:

[a face,]

a lower portion extending from a toe section to a heel section to form a front and a back face of the blade;[,] and

an upper portion having a longitudinal axis and comprising a defined region of reduced longitudinal bending stiffness in a direction generally perpendicular to the faces of the blade when measured relative to regions in the upper portion that border either side of the defined region along the longitudinal axis;

wherein the upper portion is configured to be detachably mated to a hockey stick shaft.

2. (Amended) A hockey stick comprising:

a shaft and

a blade adapted to being detachably joined to the shaft comprising [a face,]:

a lower portion[,] extending from a toe section to a heel section to form a front and a back face of the blade; and

an upper portion having a longitudinal axis generally extending from the heel toward the shaft, the upper portion being comprised of a defined region of reduced longitudinal bending stiffness in a direction generally perpendicular to the faces of the blade when measured relative to regions in the upper portion of the blade that border either side of the defined region along the longitudinal axis.

3. Cancelled.

4. Cancelled.

5. Cancelled.

6. Cancelled.

7. Cancelled.

8. Cancelled.

9. Cancelled.

10. Cancelled.

11. Cancelled.

12. Cancelled.

13. Cancelled.

14. Cancelled.

15. Cancelled.

16. Cancelled.